

CLMPTO 10/18/04 JW

Amend Claims 1,3,4,5,6,7,8,9,10,
11,12,13,15,16,17,

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1. (Currently Amended) Apparatus for direct tunneling between a time division multiplexed (TDM) switch and a synchronous transfer mode (STM) backbone network, comprising:

an interface adapted for connection to an STM link for transferring STM data to, transfer data to, and receiving STM data from, the STM backbone network, and adapted for connection to at least one serial link for transferring pulse code modulated (PCM) data to, and receiving PCM data from, a fabric of the TDM switch, the interface converting the PCM data to STM data for data transfer to the backbone network and vice versa; and

the interface being further adapted to emulate a trunk peripheral of the TDM switch so that a computing module of the TDM switch is enabled to communicate with the interface using a protocol native to the computing module for communications with a trunk peripheral,

wherein in response to receiving a control message from the computing module to make a call to a desired trunk number, the interface is further adapted to cause the desired trunk number to be a connection set up through the backbone network.

2. (Original) The apparatus as claimed in claim 1 wherein the trunk peripheral emulated by the interface is a digital trunk controller.

3. (Currently Amended) The apparatus as claimed in claim 1 wherein the serial link is connected to comprising a switch fabric interface that receives PCM data from, and transfers PCM data to, a switch fabric of the TDM switch.

4. (Currently Amended) The apparatus as claimed in claim 1 wherein the switch fabric interface between is adapted to convert data received from the fabric of the TDM switch in electrical form to data in optical form for transfer over the serial link to the interface.

5. (Currently Amended) The apparatus as claimed in claim 1 wherein the interface is adapted to formulate and transfer messages through the STM backbone network to peer interfaces connected to the STM backbone network in order to set up connections for TDM

4. (Currently Amended) The apparatus as claimed in claim 3 wherein the interface is further adapted to formulate and transfer ATM signaling messages in order to initiate the set up and release of ATM virtual channel connections in the ATM backbone network.

5. (Currently Amended) The apparatus as claimed in claim 3 wherein the TDM switch is configured adapted to view the interface as a trunk peripheral that supports a single large trunk group.

6. (Currently Amended) A method of providing direct trunking between a time division multiplexed (TDM) switch and a synchronous transfer mode (STM) backbone network, comprising the steps of:

configuring providing an interface adapted to convert pulse code modulated (PCM) data to ATM cells and data format of the backbone network, and vice versa, so that the interface is further adapted to communicate with a connecting module of the switch using a connecting protocol native to the switch and the interface thereby emulates to constitute a trunk peripheral of the TDM switch; and

connecting the interface directly to a serial link of a fiber interface of the TDM switch and directly to the backbone network to enable direct trunking between the TDM switch and the ATM backbone network; and

wherein in response to receiving a control message from the connecting module to initiate a call or a desired trunk number the interface is further adapted to map the desired trunk number to a connection set up through the backbone network.

7. (Currently Amended) The method as claimed in claim 6 wherein the interface is further configured adapted to formulate and send messages through the ATM backbone network to peer interfaces in order to set up and release calls between the TDM switch and other TDM switches connected to the ATM backbone network.

8. (Currently Amended) The method as claimed in claim 6 wherein the interface is further configured adapted to formulate and send ATM signaling messages to initiate the setup or

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release of ATM virtual channel connections for the transfer of bearer traffic associated with the calls.

11. (Currently Amended) The method as claimed in claim 6 wherein further comprising a step of arranging translation tables in the TDM switch is configured to view such that the TDM switch views the interface as a trunk peripheral that supports a single large trunk group.

12. (Currently Amended) The method as claimed in claim 8 wherein further comprising a step of arranging translation tables in the TDM switch is configured to view such that the TDM switch views a plurality of interfaces as a collection of trunk peripherals that support a single large trunk group.

13. (Currently Amended) Apparatus for direct trunking between a time division multiplexed (TDM) switch and a synchronous transfer mode (STM) backbone network, comprising:
an interface adapted for connection to an ATM link for transferring ATM data to transfer data to, and receiving ATM data from, the STM backbone network, and adapted for connection to at least one serial link for transferring point-to-point (P2P) data to, and receiving P2P data from, a fabric of the TDM switch, the interface converting the P2P data to ATM cells a data format of the backbone network and vice versa;

the interface being further adapted to include a trunk peripheral of the TDM switch, and to communicate with peer interfaces connected to the STM backbone network to control virtual channel connections for TDM calls;

wherein in operation, a control message to create a call is a selected trunk number, the interface is further adapted to map the selected trunk number to a connection value through the backbone network.

14. (Original) The apparatus as claimed in claim 13 wherein the interface is adapted to communicate with a computing module of the TDM switch using a protocol native to the computing module.

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configuring switching as interface adapted to connect public wide area network (PWAN) data to ATM switch in form of the backbone network, and vice versa, so that the interface is adapted to enable a bank peripheral of the ATM switch and to communicate with other interface connected to the ATM backbone network as network related external components for ATM calls and

connecting the interface directly to a serial link of a switch fabric interface of the TDM switch to enable direct working between the TDM switch and the ATM backbone network, refrain in response to receiving a control instruction from the management module to route a call to a desired trunk number, the interface is further adapted to map the desired trunk number to a connection set up through the backbone network.

16. (Currently Amended) The method as claimed in claim 15 wherein the interface is configured to establish channel connections for TDM calls by sending messages through the AAL2 backbone network to other interfaces in order to set up and release calls between the TDM switch and other TDM switches connected by other interfaces to the AAL2 backbone network.

12. (Continued) Accordingly, the method as claimed in claim 16 wherein the interface is further configured to forward said first ATSS signaling messages to an ATSS switch to which the interface is connected to initiate the set up or release of ATSS virtual resource connections for the transfer of bearer traffic associated with the TSS calls.

18. (Original) The method as claimed in claim 15 wherein the TUI switch is configured to view the interface as a digital track controller that supports a single large track group.